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24 HSKIKI

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Fakultet kemijskog inženjerstva i tehnologije Sveučilišta u Zagrebu, Zagreb

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**POSTERSKA PRIOPĆENJA**
*POSTER PRESENTATIONS*

## A. KEMIJA
*CHEMISTRY*

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# ELEKTROKEMIJSKA KARAKTERIZACIJA HIDRAZIDA DIPIKOLINSKE KISELINE

# ELECTROCHEMICAL CHARACTERISATION OF DIPICOLINIC ACID HYDRAZIDES

Martina Medvidović-Kosanović[1], Anita Blagus Garin[1], Franc Perdih[2], Anamarija Šter[1], Berislav Marković[1]

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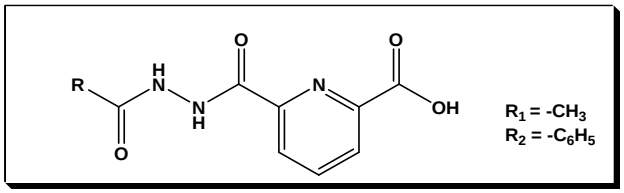
Dipicolinic acid hydrazides were investigated for their multidentate chelating properties, because they possess a large number of potentional donor atoms and for their use in medicine and agriculture [1,2]. Oxido-reduction properties of prepared derivates of dipicolinic acid, Scheme 1, were investigated by cyclic and differential pulse voltammetry. Measurements were conducted in a three electrode voltammetric cell in a non-aqueous media. Glassy carbon was used as a working electrode, platinum wire as counter electrode and non-aqueous $Ag/Ag^+$ electrode as a reference electrode. Inert atmosphere was accomplished by system purging with high purity argon Ar 5 ($\phi_{Ar}$ = 99.999 %), before each measurement. All compounds were characterized by the elemental analyses, MS, IR and $^1$H-NMR spectroscopy.

Cyclyc voltammograms revealed one oxidation and one reduction peak of benzohydrazide of dipicolinc acid ($E_{p,a}$ = 0.25 V and $E_{p,k}$ = –0.48 V), which both increased with increasing concentration ($c$ = 3.3 · $10^{-5}$ mol $dm^{-3}$... 5.0 ·$10^{-4}$ mol $dm^{-3}$) and scan rate ($v$ = 25 ... 300 mV/s). The results have shown that the oxidation process is quasi reversible and diffusion controlled. Differential pulse voltammetry showed one oxidation peak $E_{p,a}$ = 0.16 V, which also increased with increasing concentration of the investigated compound. The oxidation peak decreased with successive scans which confirmed adsorption oxidation products of studied hydrazide on the glassy carbon electrode surface.

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